

## CLAIMS

1. Method for forming a cold spot region on a discharge tube of a discharge lamp, comprising the steps of

- 5            forming a discharge tube,  
              forming a tubular extension on at least one end of the discharge tube, the tubular extension having a smaller diameter than the diameter of the discharge tube end, a free end of the tubular extension extending away from the discharge tube end,  
              forming a reduced thickness portion on the tubular extension,  
10          the reduced thickness portion being formed as a membrane.

2. The method of claim 1, in which the membrane is formed of the material of the tubular extension.

- 15        3. The method of claim 1, in which the membrane is formed on the free end of the tubular extension.

4. The method of claim 1, in which forming the membrane comprises the steps of:

- 20        a, establishing a pressure difference between the inner volume of the discharge tube and the environmental pressure,  
              b, heating the free end of the tubular extension and melting the material of the tubular extension,  
              c, generating a bubble formation from the molten material of the tubular extension under the effect of the pressure difference between the inner volume of the discharge tube  
25        and the environmental pressure, the wall of the bubble formation constituting a membrane from the molten material of the tubular extension,  
              d, subsequent to the generation of the bubble formation, cooling the material of the extension and solidifying the membrane.

5. The method of claim 1, in which an exhaust tube of the discharge tube serves as the tubular extension.

6. The method of claim 1, in which the pressure difference is established by evacuating the  
5 discharge tube.

7. The method of claim 6, in which the evacuated discharge tube is sealed simultaneously with the forming of the membrane.

10 8. A discharge lamp comprising

a discharge tube,  
a tubular extension located at an end of the discharge tube, the tubular extension having a smaller diameter than the diameter of the discharge tube end, a free end of the tubular extension extending away from the discharge tube end,

15 the tubular extension further comprising a reduced thickness portion,  
the reduced thickness portion being a membrane.

9. The discharge lamp of claim 8, in which the membrane is formed of the material of the tubular extension.

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10. The discharge lamp of claim 8, in which the reduced thickness portion is at the end of the tubular extension.

11. The discharge lamp of claim 8, in which the tubular extension is an exhaust tube.

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12. The discharge lamp of claim 11, in which the membrane seals off the end of the exhaust tube.

13. The discharge lamp of claim 8, in which the lamp comprises a lamp housing, the lamp  
30 housing enclosing the end of the tubular extension.

14. The discharge lamp of claim 13, in which the lamp housing encloses drive electronics of the lamp, the lamp housing further comprising a partition, the partition separating a first volume portion containing the drive electronics from a second volume portion containing  
5 at least one discharge tube end and an associated tubular extension.
15. The discharge lamp of claim 13, in which the lamp housing further comprises ventilation slots at least in the region of the second volume portion.
- 10 16. The discharge lamp of claim 8, in which the thickness of the membrane is in the order of or less than 0,1 mm.
17. The discharge lamp of claim 8, in which the length of the tubular extension is between 8-20 mm.
- 15 18. The discharge lamp of claim 8, in which the diameter of the discharge tube is between 8-20 mm.
19. The discharge lamp of claim 8, in which the diameter of the tubular extension is  
20 between 2-5 mm.
20. A discharge tube having a tubular extension located at an end of the discharge tube, the tubular extension comprising a reduced thickness portion,  
the reduced thickness portion being a membrane, the membrane being formed of the  
25 material of the tubular extension.